U.S.C. CAMPUS SAFETY

Dana Gold

Almost every day we read or hear about crimes against people and property, natural disasters and unexpected emergencies. We hope that we never become victims of crime or suffer serious harm but we may wonder: How can we be better protected and contribute more to our own personal security? … Our University has some answers.

The UCI Police Department, Environmental Health and Safety (EH&S), campus Administration and others have established programs, resources and guidelines which address all major aspects of personal, campus and national safety. This article offers informational resources and provides web links for more detailed information on each issue and concern.

UCI Police Department safety publications provide safety guidelines that enable students, staff and faculty to increase their personal safety and what an individual can do to prevent being a victim of crime. All the information provided is available in brochure format at the UCI Police Department web page http://www.police.uci.edu/safetypublications.html. A few topics include Dating Violence, Rape Aggression Defense (R.A.D.), Personal Safety, Victims Assistance, Domestic Violence and Sexual Assault Information, radKIDS Program, and Hate Crimes. Additional safety tips are available at http://www.police.uci.edu/safetytips.html.

Of particular significance is the Community Service Officers (CSO) Safety Escort program: a free service to students, staff and faculty members of the UCI campus community where a uniformed CSO will escort you to your destination from your laboratory, office or lecture hall. The Safety Escort Program is meant to provide a safe alternative to walking alone at night. The link for the CSO program is http://www.police.uci.edu/csosafetyescorts.html.

Finally, check out this website: http://www.today.uci.edu/news/preparedness/intro.asp. The Communications Office develops and maintains this web page as a resource for the campus community. It features links to UCI’s emergency management plans, the national security threat level, tips on how to prepare for terrorism and other emergencies, and resources for psychological assistance.

The UCI Police Department, Environmental Health and Safety (EH&S), campus Administration and others remain committed to a safe and secure campus environment. Take care!
What is this thing called the Chemical Hygiene Plan?
Chris Younghans-Haug

If you work in a science research laboratory or study the sciences, it is likely that you will handle chemicals at some time. To protect yourself and those around you, please take the time to understand the specific hazards of the chemicals you plan to use before even opening a container. Plan the exact safe work practices you will use to protect you and others from harmful exposures to hazardous chemicals. The UC Irvine Chemical Hygiene Plan (CHP) provides written standard operating procedures (SOPs) that all laboratory workers who use hazardous chemicals at UCI should follow. The CHP is located at the EH&S website at http://www.ehs.uci.edu/programs/ih/Universalchp/chp.html. One of the most important standard operating procedures is reading and understanding the Material Safety Data Sheet for the hazardous chemicals you are planning to use.

Examples of other important laboratory standard operating procedures are:

- **Hygiene**
  - Eat, drink and store foods only in Clean Areas.
  - Do not wear shorts, cutoffs or miniskirts, high-heeled shoes, open-toed shoes, sandals or shoes made of woven material.
  - Wear lab coats and chemical resistant gloves; use chemical splash goggles when working with hazardous liquids and powders.
  - Replace disposable gloves frequently; do not reuse.
  - Remove Personal Protective Equipment (PPE) and wash hands before leaving the lab.
  - Maintain high standards of housekeeping in the lab.

- **Labeling & Storage**
  - Label all hazardous chemicals with the name and hazards of the chemical.
  - Store chemicals in cool, well-ventilated dry locations only with other compatible materials.
  - Store oxidizers separately from combustibles and flammables; store acids separately from bases.
  - Store flammables away from heat and arc sources and put away flammable storage containers when not in use.

- **Planning and Usage**
  - Minimize hazardous chemicals in the lab by managing chemical inventories, designing microscale versions of the experiment and substituting the more hazardous chemicals with less hazardous choices.
  - Establish Designated Areas and lab-specific SOPs for highly hazardous chemicals like carcinogens, acutely poisonous agents, and reproductive toxins.
  - Use secured safety shields when working with reactive mixtures or performing distillations involving more than one liter of peroxide forming chemicals.
  - Use non-sparking stirrers and hot plates; use fail-safe equipment for unattended operations (i.e. automatic temperature shut-offs).
  - Open volatiles only in a chemical exhaust hood; set materials at least six inches inside.
  - Clean up incidental spills promptly.
  - Know emergency procedures including telephone numbers and the location of safety eyewashes, showers and fire alarm pull stations.
  - Never work alone when performing hazardous work.

If you follow the procedures in the Chemical Hygiene Plan, you will avoid harmful exposure to hazardous chemicals. Get into the habit of asking yourself the following when planning an experiment: "What are the hazards?" "What are the worst possible things that could go wrong?" "How will I deal with them?" "What are the prudent practices, protective facilities and equipment necessary to minimize the risk of exposure to the hazard?" The Chemical Hygiene Plan provides you the means to answer these important questions. For more assistance with laboratory chemical safety, contact Chris Younghans-Haug at 949-824-5730.
RADIOACTIVE WASTE MANAGEMENT
Kirk Matin

University research sometimes involves the use of radioactive materials and the generation of radioactive wastes that must be stored, managed and disposed of in strict compliance with federal, state and local environmental regulations. Radioactive waste must be minimized and separated into categories to minimize the disposal cost. Radioactive waste is very expensive to dispose of and the prices increase each year. Following these simple guidelines will lower the cost of radioactive waste disposal and help all of us live in a cleaner environment.

Segregation

STEP 1- Segregate radioisotopes by waste type:

- Solid Waste – lab debris (e.g., paper, etc.), gloves, plastic pigs and empty scintillation vials.
- Non-hazardous Liquid Waste – buffers and aqueous liquids with a pH between 4 and 10.
- Hazardous Liquid Waste – flammable, corrosive, toxic, etc.
- Liquid Scintillation Cocktail – filled vials and bulk scintillation cocktail.
- Sharps – needles, razor blades, etc.
- Biohazardous Waste – animal carcasses and/or tissue.
- Lead – pigs, bricks and foil. Recycle lead for FREE! DO NOT place leaded items into your dry radioactive waste containers. Call EH&S at x44578 to have your leaded items picked up free of charge.

STEP 2 - Within each waste type, segregate radioisotopes by half-life:

- < 15 days (e.g., $^{32}\text{P}$ and $^{111}\text{In}$)
- 15 – 28 days (e.g., $^{33}\text{P}$ and $^{51}\text{Cr}$)
- 29 – 60 days (e.g., $^{59}\text{Fe}$ and $^{125}\text{I}$)
- 61 – 90 days (e.g., $^{35}\text{S}$)
- >90 days (e.g., $^{3}\text{H}$, $^{14}\text{C}$, $^{57}\text{Co}$, $^{22}\text{Na}$)

Labeling and Storage

- Use labels and containers provided by EH&S for labeling and storage of radioactive waste. Call EH&S at 824-4578 to request empty containers and blank labels.
- Always place liquid containers in secondary containment to adequately contain all contents of the container/spilled materials.
- Use proper signage for storage areas, such as “Caution Radioactive Material”, which includes the magenta trefoil radiation symbol.
- Keep containers closed when not in use.

Disposal

- Fill out the Radioactive Waste Collection Form.
- EH&S will pick-up your waste within 1-3 days.

HOUSEHOLD HAZARDOUS WASTE COLLECTION

The County of Orange has four Household Hazardous Waste Collection Centers available to Orange County citizens. (Proof of residency may be required.)

- Anaheim
  - 1071 N. Blue Gum Street
- Irvine
  - 6411 Oak Canyon
- Huntington Beach
  - 17121 Nichols Street
- San Juan Capistrano
  - Prima Deshecha Landfill

Collection Center hours of operation are Tuesday through Saturday, 9:00 am to 1:00 pm. Closed on rainy days and holidays.

For more information, call the hotline at (714) 834-6752 or visit http://www.oclandfills.com/hhwcc.asp.

For Los Angeles County residents, visit http://www.lacsd.org/HW/HHWFLIER.htm.

Get rid of the following household items for FREE!

- Oil and latex paint and paint products
- Automotive Products (batteries, motor oil, oil filters, antifreeze, unused road flares, etc.)
- Auto & furniture polish
- Household cleaners
- Wood preservatives
- Pesticides & herbicides
- Hobby & pool supplies
- Propane barbecue cylinders
- Smoke detectors
- Household batteries (alkaline, nickel-cadmium, mercury [button])
- Fluorescent lights & ballasts
- Mercury
- Medicines
- Cosmetics
- Cathode Ray Tubes (TVs, Computer monitors)
**Emergency Eyewash and Showers**

Rocky Dendo

In many campus laboratories, hazardous chemicals can damage your skin or eyes. Emergency eyewash and shower units can help to supplement the use of personal protective equipment and immediately counteract gross chemical splashes or contamination.

**What should be the maximum travel time to the emergency eyewash and shower unit?**

Cal-OSHA regulations (CCR Title 8, §5162) mandate no more than 10 seconds travel time for the injured person to locate emergency units. The first 10 seconds after exposure to a hazardous substance is critical – particularly with corrosives. It is important to ensure that equipment and other items are not placed in front of emergency stations, and that the pathways to them remain unobstructed and uncluttered.

**How long does the water need to flush the eyes or skin?**

For both eyes and skin, the minimum recommended time is 15 minutes of continuous flushing. For a more effective flush, push modesty aside and remove all articles of clothing when using an emergency shower. In an eyewash station, use your hands to hold your eyes open as you thoroughly flush them with water. **Note:** Portable squeeze bottles are not acceptable substitutes for plumbed units because they cannot supply enough fluid; though they can provide immediate flushing as the user proceeds to a fixed station.

**What are drench hoses for?**

Drench hoses are considered to be secondary to fixed showers and eyewashes and are best for spot rinsing, or for situations where a victim is unable to stand. Although they are conveniently located near faucets and sinks, they should only be used in case of emergency. Other uses of the drench hose might contaminate the unit and put users at risk.

**How frequently are the emergency units maintained?**

Monthly flush tests are conducted on all units to make sure the water is clear and free of rust build-ups. Flow rate and the operational state of each unit are also checked annually. Testing is documented on a tag placed on or near the unit to communicate to users that they are maintained and ready to use.

**Who do I contact regarding the maintenance of the emergency units?**

Facilities Management (Plumbing) is responsible for monthly flush tests and annual flow tests of the emergency units throughout the campus. They inspect units for missing or damaged parts and also ensure that the units are free of leakage. Please contact Facilities Management if monthly flush tests are not documented or if there are any maintenance and operation concerns regarding these units.